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Measures of Employment Turnover post 2000: Gross Employment Gains and Losses Versus Net Employment Change

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.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0^s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p}	preliminary
^{r}	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
E	use with caution
F	too unreliable to be published
*	significantly different from reference category ($p < 0.05$)

Measures of Employment Turnover post 2000: Gross Employment Gains and Losses Versus Net Employment Change

by Anne-Marie Rollin

This article in the *Economic Insights* series decomposes business-sector annual net employment growth into gross employment creation and gross employment destruction at the firm level. It is based on research carried out by Statistics Canada on the topic of business dynamics.

The net employment created or destroyed in the business sector in a given year provides only a partial picture of the employment change constantly taking place at the firm level. Some firms shrink or go out of business even during expansions, while other firms appear or expand even during recessions. This paper studies employment dynamics in the business sector during the period 2001 to 2009.

This period includes an expansionary phase (2001 to 2008) and a recession (2008/2009). Business-sector employment grew by 1.8% annually on average between 2001 and 2008, and fell by 3.2% in 2009.

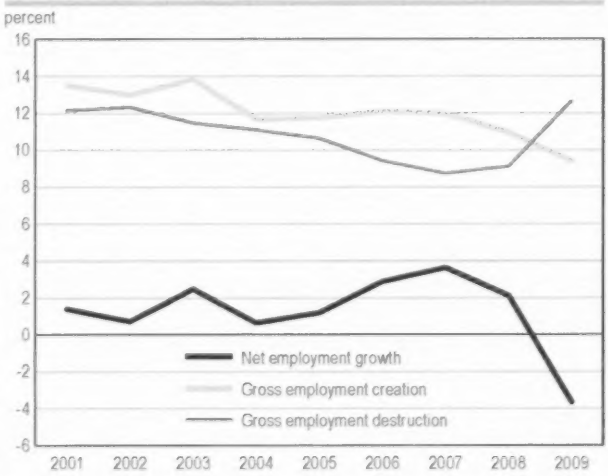
Firm-level data can be used to decompose net employment growth into gross employment creation (employment created by entering and expanding firms) and gross employment destruction (employment destroyed by exiting and contracting firms). This provides a picture of the amount of employment churning that occurs on a continuous basis in the business economy. It can also serve to detect structural changes taking place and the competitive processes at work in the economy.

Employment creation and destruction

The employment created by some firms and the employment destroyed by others annually dwarf the net employment growth number (Chart 1). Total employment varied by less than 4% each year, but employment creation and destruction rates both exceeded 8%.

During the expansionary phase of the decade, employment creation and destruction both trended downward, though the decrease in employment destruction was steadier. The annual change in the rate of net employment growth can come from a change in employment creation, a change in employment destruction, or both. From 2001 to 2004, the fluctuations in employment creation contributed largely to the evolution of net employment growth. However, lower employment destruction rates led to an increase in the net employment growth rate between 2005 and 2007. As is typical during a recession, employment destruction increased markedly (+3.5%) in 2009 while employment creation slowed (-1.6%). As a result of the financial crisis, the business sector in Canada employed approximately 369,000 fewer individuals in 2009 compared to 2008.

Chart 1
Employment flows as percentage of total employment, 2001 to 2009



Note: The denominator is the average employment in the previous and current years.
Source: Statistics Canada, Longitudinal Employment Analysis Program, 2001 to 2009.

Employment reallocation

Employment reallocation, the sum of gross employment creation and gross employment destruction, provides a summary measure of the reshuffling of employment opportunities across

firms. During the expansion, employment reallocation decreased steadily, to 20.1% in 2008 from 25.7% in 2001 (Chart 2). This means that one in four jobs was either created or destroyed in 2001, whereas employment reallocation affected one in five jobs in 2008. The business-sector labour market was therefore less dynamic in a sense towards the end of the expansion. Such downward trend has also been observed in the United States over the last three decades.[1]

Driven by the recessionary increase in employment destruction, employment reallocation increased in 2009.

Continuing firms

Over the last decade, entries and exits each accounted for less than 20% of employment creation and employment destruction on average (Chart 3). Continuing firms therefore played the primary role in employment dynamics during both the expansion and the recession.

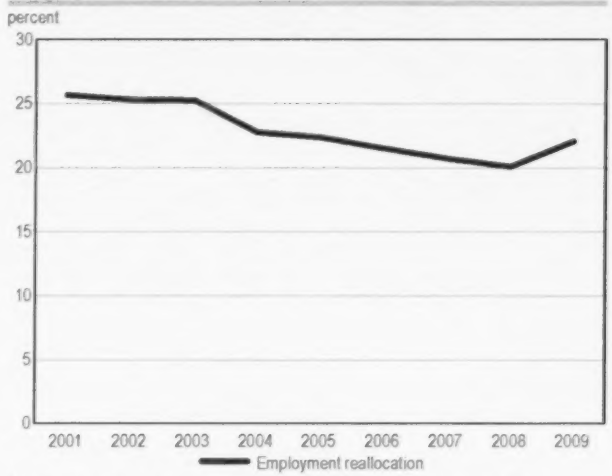
The decrease in business-sector employment during the last recession came mainly (87%) from those firms that shrank their workforce but did not go out of business. This is consistent with findings from studies that compared the most recent recession in Canada with the two previous recessions. These studies found that the probability of being laid off was lower during the last recession[2] and that Canadian employers relied more on shorter workweeks and less on job cuts during the last recession[3] than in previous recessions. The modest role played by exiting firms in employment destruction is consistent with these studies since employment lost from firm shutdowns are more likely to be associated with permanent layoffs.

Goods and services sectors

Employment dynamics in the goods sector and in the services sector differed both during the expansionary and recessionary phases of the decade (Table 1).

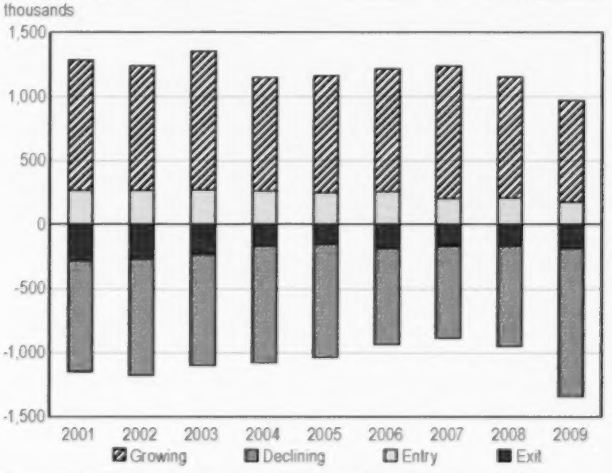
During the 2001-to-2008 expansion, the two sectors had similar levels of employment creation, but the employment destruction rate was 1.6 percentage points higher in the goods sector. Thus, the lower net employment growth observed in the

Chart 2
Employment reallocation rate, 2001 to 2009



Note: The denominator is the average employment in the previous and current years.
Source: Statistics Canada, Longitudinal Employment Analysis Program, 2001 to 2009.

Chart 3
Net employment growth, by employment dynamics category, 2001 to 2009



Source: Statistics Canada, Longitudinal Employment Analysis Program, 2001 to 2009.

1 See Haltiwanger *et al.* (2011).
2 See Chan *et al.* (2011).
3 See Cross (2011).

Table 1
Employment share and employment flow rates, by industry sector, 2001 to 2009

Industry sector	2001-to-2008 expansion (average)					2008/2009 recession				
	Employment share	Net employment growth rate	Gross employment creation rate	Gross employment destruction rate	Employment reallocation rate	Employment share	Net employment growth rate	Gross employment creation rate	Gross employment destruction rate	Employment reallocation rate
	percent									
Goods sector	29.4	0.2	11.7	11.5	23.2	26.0	-7.6	8.4	16.0	24.4
Services sector	69.9	2.0	11.9	9.9	21.9	73.0	-2.3	9.0	11.4	20.4

Note: Employment shares do not add up to 100% because the industry sector is unknown for a small number of firms. The denominator used in the employment flow rates is the average employment in the previous and current years.
Source: Statistics Canada, Longitudinal Employment Analysis Program, 2001 to 2009.

goods sector did not stem from lesser employment creation, but from greater employment destruction.

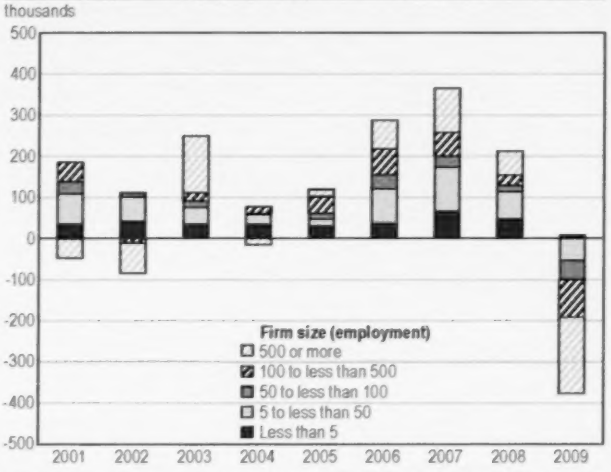
The goods sector was hard-hit by the recession, suffering a net loss of 7.6% of its employment; the corresponding figure for the services sector was 2.3%. Once more, the spread between the net employment growth rates posted by the two sectors is explained mostly by differences in the rates of employment destruction.

Firm size

Attention is often focused on whether employment growth is concentrated in small or large firms. The answer to the question—who creates most employment?—depends very much on the time period chosen for the analysis. In the early post 2000 period, the relative contribution of firms of different sizes to net employment growth changed considerably from year to year, mostly because of substantial volatility in the net employment growth of the largest firms (Chart 4).

Firms with 500 or more employees were net employment losers four times: in 2001, 2002, 2004, and 2009. This size class accounted for 50% of the net employment decline in 2009. By contrast, these large firms contributed significantly to employment growth in 2003, 2006, 2007 and 2008. Micro-firms (fewer than five employees) were responsible for an average net employment gain of 41,000 every year during the 2001-to-2008 expansion. Although micro-firms' absolute net contribution was relatively unchanged, their annual share of net employment growth varied considerably, depending on the size of the change occurring in larger firms.

Chart 4
Net employment growth, by firm size, 2001 to 2009



Note: Employment is measured in Average Labour Units. See Rollin (2012) for details on this measure.
Source: Statistics Canada, Longitudinal Employment Analysis Program, 2001 to 2009

Conclusion

The net change in employment is a summary statistics that garners attention. However, this figure is the outcome of substantial reallocation and churning of employment at the firm level. The decomposition of net employment growth into gross employment creation and destruction provides a more detailed picture of what is happening within the Canadian labour market.

Information on annual employment dynamics in Canada is available in a series of six new CANSIM tables (527-0001 to 527-0006). These tables provide information on gross employment creation, gross employment destruction, and net employment growth for employer businesses in the business sector. Estimates are available for different industries and firm size categories.

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This article in the *Economic Insights* series is based on research on business dynamics carried out by the Economic Analysis Division of Statistics Canada. It makes use of the Longitudinal Employment Analysis Program (LEAP) file maintained by the Division, which is generated from administrative payroll data filed by Canadian firms. For more information, please see the following:

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